

REMARKS

Claims 1 and 18 are amended hereby. Claims 5, 6, 9, and 10 are canceled. No claims are newly added. Since claims 11-17 and 19-20 have been withdrawn from consideration, after entry of this Amendment, claims 1-4, 7, 8, and 18 will remain under consideration by the Examiner.

In the Office Action dated August 10, 2006, the Examiner rejected claims 1-7, 10, and 18 under 35 U.S.C. § 102(b) as being anticipated by Katayama (Japanese Patent Publication No. JP 08-077589). Claims 8-9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Katayama in view of Ishibashi (Japanese Patent Publication No. JP 11-86309). The Applicant respectfully disagrees with these rejections and, therefore, respectfully traverses the same.

Before addressing the rejections of the claims, the Applicant respectfully points out that claim 1 has been amended to incorporate the limitations formerly recited by claims 5, 6, 9, and 10. Accordingly, claims 5, 6, 9, and 10 have been canceled. Claim 18, a method claim, has been amended in accordance with the changes made to claim 1.

The Applicant respectfully submits that claims 1-4, 7, 8, and 18 are patentable over the references cited by the Examiner because the claims recite an optical disk device (or a disturbance learning method) that combines a number of features including, among them, a disturbance learning portion that adjusts a compensation gain of a position control portion and a phase adjuster that adjusts a phase of the compensation gain. The claims are also believed to be patentable because they include a disturbance learning portion that reduces the compensation gain in a stepwise manner, that has a detector to detect rotation information and carries out learning of the disturbance information at a timing given by the rotation information, and that stores the disturbance information, among other features. The Applicant respectfully submits that the references relied upon by the Examiner neither disclose nor suggest at least these features. Accordingly, the Applicant believes that the claims are patentable over the references.

To assist the Examiner with an understanding of the invention, the Applicant respectfully directs the Examiner's attention to Figs. 8-10 of the present specification. The Applicant also directs the Examiner's attention to page 27, line 9, through page 32, line 10. In summary, the Applicant notes that the compensation gain is reduced while the optical head and the objective lens are being controlled without releasing servo control. As a result, even small values for the

disturbance information may be detected without being affected by control of the compensation gain.

With reference to the English Abstract, Katayama describes an optical disk device that applies a repetitive learning control theory to tracking control and focus control. (Katayama at Abstract.) A shape of disk eccentricity of one disk is stored in a learning memory 1 and the shape of the disk eccentricity is calculated. (Id.) The calculated result is then used to increase a gain of a tracking control system when track correlation is strong. (Id.) When track correlation is weak, the gain of the tracking control system is decreased. (Id.) Thus, loop gain is decreased when there is a track correlation break due to a sudden vibration, for example. (Id.)

While Katayama ostensibly teaches an operation and an apparatus including a learning memory 1, there is nothing that may be gleaned from the Abstract that can be said to disclose or suggest an optical disk device that combines, with other features, a disturbance learning portion that adjusts a compensation gain of a position control portion and a phase adjuster that adjusts a phase of the compensation gain. In addition, there is nothing in the Abstract that may be said to disclose or suggest that a disturbance learning portion reduces a compensation gain in a stepwise manner or that the disturbance learning portion has a detector to detect rotation information, carries out learning at a timing given by the rotation information, or stores the disturbance information. The same arguments apply to the disturbance learning method of claim 18. Accordingly, the Applicant respectfully submits that Katayama fails to provide a proper basis for the rejection of the claims.

Ishibashi does not assist the Examiner with a rejection of the claims because, among other reasons, Ishibashi does not cure the deficiencies noted with respect to Katayama. According to the English Abstract, Ishibashi describes an optical disk controller that provides tracking control or focus control when reproducing a new disk. (Ishibashi at the Abstract.) The apparatus includes a tracking actuator 16 for adjusting the drive of the objective lens of the optical pickup 13 in the tracking direction of the optical disk 11. (Id.) The apparatus also includes a control circuit 15 for adjusting the drive of the actuator 16 based on, among other things, a learning control means 17 by which the eccentricity of the disk 11 is learned. (Id.)

Like Katayama, while Ishibashi appears to describe an apparatus including a learning control means 17, there is no information that would be understood by those skilled in the art to describe or suggest a disturbance learning portion that adjusts a compensation gain of a position

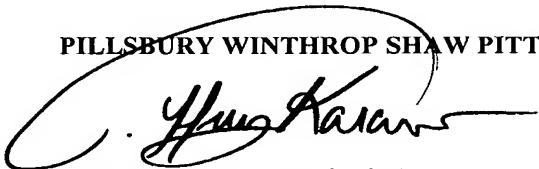
control portion and a phase adjuster that adjusts a phase of the compensation gain. As with Katayama, there also is nothing in the Abstract that might be understood to disclose or suggest that a disturbance learning portion reduces a compensation gain in a stepwise manner or that a disturbance learning portion has a detector to detect rotation information, carries out learning at a timing given by the rotation information, or stores the disturbance information. The same applies to the disturbance learning method of claim 18. Accordingly, the Applicant respectfully submits that Ishibashi cannot be combined properly with Katayama to render obvious any of claims 1-4, 7, 8, and 18.

Each of the rejections having been addressed, the Applicant respectfully requests that the Examiner reconsider the rejection of the claims, withdraw the rejections, and pass this application quickly to issuance.

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Respectfully submitted,

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